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POLICY REVIEW

STRATEGY FOR IMPROVED NUTRITION OF CHILDREN AND WOMEN IN DEVELOPING COUNTRIES

SUMMARY

Freedom from hunger is a basic human right. Continued malnutrition is unacceptable. Goals are proposed for the 1990s for the control of protein-energy malnutrition and micronutrient deficiency disorders. This strategy, based on previous nutrition-oriented programmes, proposes to reduce and ultimately eliminate malnutrition in developing countries. It proposes a methodology for the identification of appropriate actions in a given context through situation assessment and analysis, rather than through a predetermined set of technical interventions. Central to the methodology is a conceptual framework reflecting the multisectoral nature of malnutrition, and a community-based monitoring system is key to that assessment. The strategy is applicable at household, community, district and national levels. Important strategy components include the promotion of breast-feeding and attention to outreach and urbanization. Potentially important components, identified through analysis, are discussed in terms of whether they address immediate causes of malnutrition, underlying causes, or basic causes. A recommendation for programme co-ordination and support for improved nutrition of children and women is contained in document E/ICEF/1990/P/L.40.

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INTRODUCTION

1. At its 1989 session, the UNICEF Executive Board requested the Executive Director to submit to its 1990 session a policy strategy for the improved nutrition of mothers and children in the developing world (E/ICEF/1989/12, decision 1989/12). UNICEF had reviewed nutrition strategies at an informal consultation in New York in September 1982, at which time the "GOBI-FF" (growth monitoring, oral rehydration therapy (ORT), breast-feeding, immunization, food supplementation and female education) strategy was identified as a combination of actions that would effectively improve child survival. The consultation recognized the importance of and complementarity between the primary health care (PHC) and poverty reduction approaches, as well as the necessity for community involvement. At a later meeting in Naivasha, Kenya, in March 1987, UNICEF staff concerned with nutrition agreed that reducing the prevalence of malnutrition was an important objective in its own right, as was improving child survival and development (CSD) and the situation of women. It was agreed that improved nutrition should not be seen as a sectoral activity, but as an important objective of all UNICEF-supported activities. The strategy proposed in the present paper has considered the recommendations of two reviews: the UNICEF/World Health Organization (WHO) Joint Nutrition Support Programme (JNSP); and the WHO/UNICEF strategy for improved nutrition of mothers and children in the developing world (JC27/UNICEF-WHO/89.4), which was endorsed by the UNICEF/WHO Joint Committee on Health Policy at its twenty-seventh session in Geneva in January 1989, with the recommendation that it be further elaborated. Recognition was given to women in their own right, not just to their role as mothers, or even as economic producers.

2. The following is a proposed strategy for developing countries to reduce and ultimately eliminate malnutrition. UNICEF has a responsibility to support countries in this endeavour as it recognizes the global nature of the problem of malnutrition and views good nutrition as a basic human right. Rather than recommending a "standard package" of technical interventions, the strategy describes an approach that identifies efficient actions in particular contexts.

Nutrition as a human right

3. Freedom from hunger and malnutrition was declared a basic human right in the 1948 Universal Declaration of Human Rights: "Everyone has the right to a standard of living adequate for the health and well-being of himself and his family, including food ..." (art. 25, para. 1). This human right, which expresses the preferred relationship between the individual and the State, was reiterated in the International Covenant on Economic, Social and Cultural Rights, which entered into force in May 1978 (art. 11). In 1974, all States that participated in the United Nations World Food Conference re-emphasized the right to be free from hunger and malnutrition: "Every man, woman and child has the inalienable right to be free from hunger and malnutrition in order to develop fully and maintain their physical and mental faculties". The elimination of hunger and malnutrition was one of the six goals of the Third United Nations Development Decade, as well as a goal of the WHO Declaration on "Health for All by the Year 2000".

4. Children are the primary victims of malnutrition. The Convention on the Rights of the Child, adopted by the General Assembly on 20 November 1989, brought together, for the first time, all rights related to the survival, development, protection and participation of children. It states that countries "shall ensure to the maximum extent possible the survival and development of the child" (art. 6); and that "State Parties shall pursue full implementation of this right and, in particular, shall take appropriate measures: (a) to diminish infant and child mortality; ... (c) to combat disease and malnutrition including ... through the provision of adequate nutritious food ..." (art. 24).

5. Because malnutrition affects young children most seriously, UNICEF has a particular mandate to support its elimination. Malnutrition manifests itself at the individual level, but its causes may be found at many levels - from household and community to national or international. The causes may operate in many different sectors simultaneously. Experience with community mobilization and co-operation with different sectors makes UNICEF especially capable of assisting countries in their efforts to alleviate malnutrition.

6. Human rights need not be defended from an economic perspective, although such an economic impact may be felt. Freedom from hunger and malnutrition is, therefore, a goal in a nutrition strategy for countries that have ratified United Nations conventions.

Malnutrition as a global problem

7. During the last 25 years, many experts have tried to assess the magnitude of malnutrition in the world. Protein-energy malnutrition, nutritional anaemia, vitamin A deficiency and iodine deficiency disorders (IDD) are the most serious nutrition problems. About 150 million children under five years old are underweight, and more than 20 million suffer from severe malnutrition. It is estimated that 350 million women have nutritional anaemia. Some 40 million children suffer from vitamin A deficiency, some of whom go blind, and most of those who do, die. Some 250,000 children go blind or partially blind and survive. IDD afflicts 200 million to 300 million people with goitre, and at least 6 million suffer from cretinism.

8. Recent information suggests that malnutrition is increasing in some parts of the world, particularly in Africa south of the Sahara. It is likely that this deterioration is a result of the present economic crisis and the adjustments being undertaken by many of the countries.

9. Because of its magnitude, its catastrophic impact on child and maternal survival and development, and the fact that it often results from international political and economic crises, malnutrition is one of the most significant global problems of the day. In order to resolve this problem, human and material resources must be mobilized at all levels.

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I. THE NATURE OF THE NUTRITION PROBLEM

10. Nutrition encompasses the digestion and absorption of nutrients. Malnutrition results from the inadequate intake of nutrients, or from disease factors that affect digestion, absorption, transport and the utilization of nutrients. Infectious diseases, in particular, affect both dietary intake and other processes.

11. A distinction should be made between the physiological concept of nutrition and the broader concept that encompasses the economic, social, political and cultural causes of the "nutrition problem". The "nutrition problem" may or may not manifest itself as a pathological condition of malnutrition. Adaptation to low energy intake is a case in point. Some people obtain an energy balance by eating as much as they need, while others reduce their activity to the level of intake they can afford. The satisfaction of "needs", i.e. requirements at desired activity levels, is important for early childhood psycho-social development and education. It should also be noted that the average adult height is lower in some countries and communities than in others. The Sub-Committee on Nutrition of the Administrative Committee on Co-ordination recently issued a statement on the significance of small body size in populations. Smaller stature indicates that, during infancy or childhood, the individual has been deprived, indicating poor nutrition and ill-health. "It is the factors associated with the process of becoming small, not the state of being small, that is the real concern ..." It is not harmful to be small, except for the effect that this has on physical working capacity and the link between maternal size and infant birth-weight. Short average stature in a population is, therefore, also an indicator of a "nutrition problem".

12. Studies have shown that the growth of privileged groups of children in developing countries does not differ significantly from the United States National Center for Health Services growth reference values, which are used by WHO. They demonstrate that socio-economic factors (particularly the dietary-infection complex) are more significant causes of poor growth in underprivileged communities than ethnic or geographic differences.

13. Priorities in assessing the "nutrition problem" have changed over the years. Vitamin deficiencies were the primary concern up to 1950; protein deficiencies from the early 1950s to mid-1970s; and multisectoral nutrition planning to the late 1970s. In 1978, the PHC approach, which shifted the focus back to communities, was adopted at Alma Ata as the strategy to achieve health for all by the year 2000. It is within that approach that some of the most successful nutrition-oriented programmes have been implemented. The conceptual framework adopted in the strategy presented in the present paper consists of well established knowledge combined with hypotheses about the probable underlying causes of malnutrition. This framework does not express exact relationships, but offers a guide as to what to look for and helps to identify the causes of the problem in a particular context.

14. For many years nutrition programmes consisted of single, monofocal technical interventions, sometimes reflecting the disciplinary background and priorities of the "intervener" more than the real needs of the community. In most cases, interventions were selected without the participation of communities, and there was seldom a clear analysis of the malnutrition problem. Changes in economic policies

or other changes over which the implementors had no influence often had a greater impact on nutrition than the programme itself.

15. Ten years of experience have shown that the most successful nutrition-oriented programmes are planned and implemented within the context of the PHC approach. Evaluation of these programmes has provided valuable knowledge about what works and what does not. The recent evaluation of JNSP, which is implemented in 16 countries and is based firmly on the PHC approach, provided new information and confirmed many conclusions obtained from other successful community nutrition programmes.

II. THE DEVELOPMENT OF A NEW NUTRITION STRATEGY

16. Consideration of past experience suggests that a strategy to resolve the nutrition problem should be based on the following:

(a) The use of an explicitly formulated conceptual framework that reflects the biological and social causes of the nutrition problem, as well as the importance of causes at both macro- and micro-levels. Such a framework should reflect the multisectoral nature of the problem, accommodating a number of potential causes, but also allowing for a reduction in the most important causes in a particular context;

(b) The early establishment of a community-based monitoring system. The generation and analysis of data are of great importance for programme modifications and mobilization. Data that are useful to resource management (from the household to the national level) should have priority. The analysis of information on the nutrition problem will act as a stimulus and a mobilizing force. It will also ensure that interventions are more relevant because they consider local conditions and are understood by people concerned;

(c) The involvement of communities, particularly women, in planning, implementation and monitoring. The people concerned are most capable of understanding the context;

(d) The strengthening of formal and non-formal institutions. This also requires local knowledge and often involves leadership training;

(e) The mobilization of resources at all levels. This involves both the creation and reallocation of resources and planning for their use;

(f) The early provision of essential services such as immunization and the control of diarrhoeal diseases (CDD) contributes to visibility and enthusiasm, both of which are important for social mobilization;

(g) The crucial role of training at all levels to increase the capability to assess and analyse the problem of malnutrition and to design appropriate action;

(h) The recognition that, although the nutrition problem is most often multisectoral and multilevel, which should be reflected in any assessment and

analysis, intervention need not always be multisectoral. On the other hand, a sequencing of actions, based on the identification of priority actions and their feasibility, is often more efficient than multisectoral interventions;

(i) The recognition that the context in which a nutrition-oriented programme is planned and implemented usually changes during the course of the programme, thus making it difficult to plan many years in advance. Instead, planning, implementation and monitoring should be processes with the built-in flexibility to accommodate and facilitate modifications. Government commitment regarding personnel, resources and advocacy should be long-term;

(j) Improved management at all levels, particularly at the district level. Flexibility means continuous replanning, which requires the efficient use of information. This does not necessarily mean more information, but rather more appropriate and timely information.

17. Thus, consideration of past successes and failures has led to the following important conclusion: instead of adopting and trying to implement "pre-packaged" technical interventions, the most appropriate actions should emerge from the assessment and analysis of the particular context. Regular monitoring at all levels makes the nutrition problem more visible and serves as a mechanism to assess the impact of actions taken. The shortcoming of most nutrition-oriented programmes today is not the lack of well-documented, scientifically proven technical interventions, but rather the failure of most programmes to explore fully how existing local skills and resources should be mobilized and supported in concert with technical interventions in order to create an environment and a support structure that is more conducive to improved nutrition.

III. NUTRITION GOALS FOR THE 1990s

18. UNICEF has adopted a number of goals for children and development in the 1990s that will need to be debated at regional and national levels, and perhaps revised, before being adopted by a given country. The goals include reducing infant, child and maternal mortality rates; improving nutrition; ensuring access to safe drinking water and sanitary means of excreta disposal; and promoting basic education and literacy. A number of supporting/sectoral goals have also been identified, the achievement of which are necessary for the achievement of major goals. The nutrition goals for the 1990s can be divided into the following two categories:

(a) The control of protein-energy malnutrition, including:

(i) The reduction of both moderate and severe protein-energy malnutrition in children under five years of age by one half of the 1990 levels;

(ii) The reduction of the rate of low birth-weight (less than 2.5 kilograms) to less than 10 per cent (an indicator of the status of maternal nutrition);

(b) The control of micronutrient deficiency disorders, including:

(i) The reduction of iron deficiency anaemia (haemoglobin level in the blood, or serum ferritin) among women of child-bearing age by one third of the 1990 levels;

(ii) The virtual elimination of IDD (urinary iodine, or serum thyroid hormone);

(iii) The virtual elimination of vitamin A deficiency and its consequences, including blindness (serum retinol, or some other measure of vitamin A status).

19. The indicators to be used in monitoring the achievement of the micronutrient goals are given in paragraph 18 (b) above; those for protein-energy malnutrition in children are as follows: underweight (low weight-for-age); wasting (low weight-for-height); and stunting (low height-for-age). In accordance with WHO terminology, readings that are three or more standard deviations from the reference median are referred to as "severe", while those between two and three standard deviations are called "moderate". Although countries may adopt their own definitions and references, international references recommended by WHO should suffice. The goals refer to the reduction of moderate and severe malnutrition. Some countries may prefer to adopt as a further target the virtual elimination (less than 1 per cent) of severe protein-energy malnutrition.

IV. STRATEGY TO ACHIEVE NUTRITION GOALS

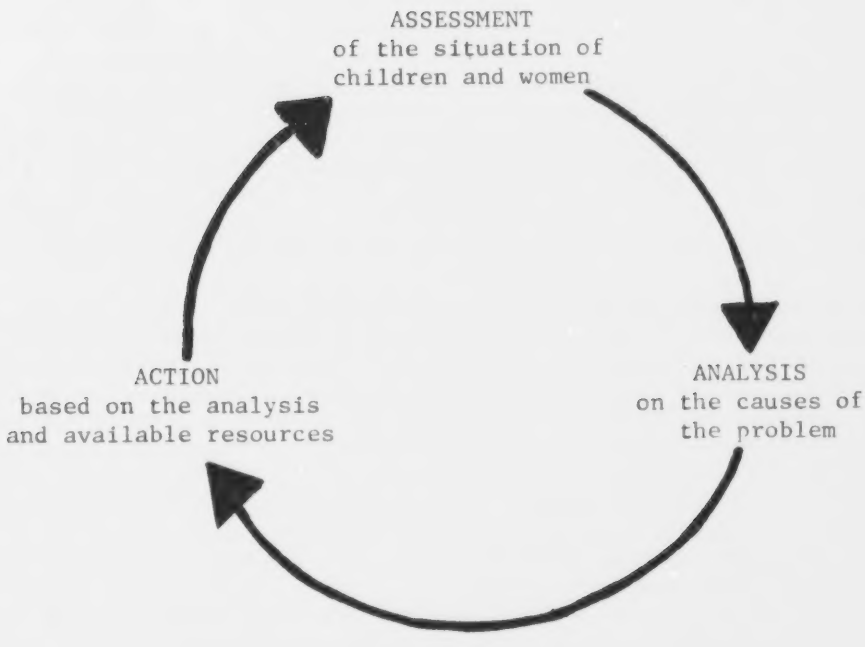
20. The overall objective of the strategy is to empower families, communities and Governments to improve the nutrition of women and children on the basis of adequate information and sound analysis. Implicit in this formulation are the concepts of self-reliance, sustainability and scale. In order to achieve the objective, the strategy will initiate new processes and accelerate existing ones at all levels of society in order to mobilize people and resources for improved nutrition. The two most important elements of the strategy are a method of assessment, analysis and action (the "triple A" approach) and a conceptual framework for the analysis of the causes of malnutrition in a specific context. The first element describes how information should be used, while the second provides a guide for discerning what information should be collected.

A. The triple A approach

21. Every day, decisions are taken that affect nutrition positively or negatively. Most decisions are consecutive steps in a process of assessing the problem, analysing its causes and taking action based on this analysis. Normally the results of those actions are observed and analysed, and then new actions are taken. Therefore, in any programme development effort to improve nutrition, it is important to acknowledge the processes, identify them and learn how they function to be able to design actions to support and accelerate the most promising. The triple A approach is illustrated in figure I below.

Figure I

THE TRIPLE A CYCLE



22. The cycle may start with assessment, whether it is the mother who assesses the growth of her child, the community that assesses the nutrition situation or the Ministry of Health that assesses trends in the prevalence of goitre. The decision to make an assessment is dependent upon awareness and commitment, while the quality of the assessment is dependent upon perceptions of the nature of the problem. Awareness, commitment and perceptions are all dependent upon the information available and the ability to understand it.

23. After an initial assessment of the situation, the analysis of the causative processes follows. The determinants of malnutrition are very complex, as some are general while others are more context-specific. If the analysis is performed by a combination of people who live with or very close to the situation under review, it is more likely that the whole exercise will be more successful. The presence of individuals who are trained and experienced in such analysis will also improve the outcome. Based on the analysis of causative processes and an assessment of available or potential resources, actions are designed and implemented. Most situations do not necessarily improve with the first set of actions. The actions

may, however, contribute to the creation of a new situation that is more conducive to actions that were not feasible before.

24. After the situation has been assessed and analysed and actions have been implemented, it is necessary to reassess the impact of the actions, and then to re-analyse it again. For this purpose, nutrition information systems must be in place. Such systems should not only provide information on nutritional status, but should also provide information about the causes of the nutrition problem. This process will lead to further actions that are likely to be more effective and better focused. It will also lead to the renewed design and implementation of actions based on a better understanding of the problems and practical experiences. This process of assessment, analysis and action can focus more precisely on target actions each time it is recycled, which permits new factors to be included as they become relevant.

25. Assessment, analysis and action depend on views of the problem. There may be agreement over the existence of a problem based on visible manifestations such as severe malnutrition, but there may be disagreement about causes of the problem. If there is disagreement about the causes, there is probably also disagreement over which actions should be taken to alleviate it. There is, therefore, a need to use an explicitly formulated conceptual framework that will help to identify and clarify the causes of malnutrition.

B. The conceptual framework

26. Malnutrition and death in children and women are the results of a long sequence of interlinked events. It is difficult to base any action on the assessment of those manifestations of malnutrition, but they indicate that the situation is serious and requires further investigation.

27. Inadequate dietary intake and disease are the most significant immediate causes of malnutrition. Disease, in particular infectious disease, affects dietary intake and nutrient utilization. In most cases, malnutrition is the combined result of inadequate dietary intake and disease.

28. In a given context it is possible to identify the immediate causes that have led to malnutrition in an individual case or to a high prevalence of malnutrition in a community. One example of this is diarrhoeal disease in combination with low energy intake. Based on this information, actions could be taken to reduce malnutrition by promoting ORT and food supplementation. However, actions at this level must often be repeated in order to have a sustained effect. If long-term improvements are to be secured, it will be necessary to extend the analysis to the next level and inquire as to the causes of diarrhoea and inadequate food intake.

29. Dietary inadequacies might be caused by an inadequate supply of food or by mothers having too little time to prepare food or to feed their children. Similarly, death from disease may result from any one or a combination of causes, such as the lack of or low utilization of health services, inadequate water supplies and sanitary facilities, poor food hygiene or inadequate child care. It

is only in a particular context that the exact causes can be identified. These underlying causes can be numerous and are usually interrelated. Most of them can be considered as the insufficient fulfilment of specific basic needs of children and women. In order to simplify analysis at this level, the underlying causes may be grouped into three main clusters: basic health services and a healthy environment; household food security; and maternal and child care.

30. Of the three clusters, the first two are prerequisites for adequate dietary intake and the control of common diseases among children. However, plentiful food of good quality, the availability of health services and a healthy environment are not enough in themselves to ensure adequate nutrition or proper health care in children and women. There also has to be a system to ensure that the foods and health services are properly used for the benefit of children and women. Defined in broad terms, the maternal and child care sector encompasses some of the services necessary in this system. Education, water and environmental sanitation and housing may all affect the outcome of any of these sectors.

31. Protein-energy malnutrition in children appears most frequently during the weaning period between about 4 and 18 months of age. It is useful to interpret the dietary intake as the result of four factors: meal frequency; amount of food per meal; energy and nutrient density of the food; and biological utilization. Compared with traditional nutrition surveys, these factors are relatively easy to measure and discuss with communities. Breast-milk has a high-energy/nutrient density, and when given on demand, provides a frequent meal for the child. Inadequate breast-feeding is a common underlying cause of child malnutrition. It is also important to recognize that weaning foods are the major vehicle for the transmission of faecal pathogens. Therefore, food hygiene is of great importance.

32. Household food security requires special attention. For a long time nutrition has almost been equated with food supply, primarily because for a large number of people, food accessibility is not assured. Access to food is necessary for adequate nutrition, but it does not guarantee it. This difference is underlined in the distinction between national and household food security. National food security means adequate food supplies through local production and food imports. National food policies often neglect to take into account the common maldistribution of food among households or even communities and regions. Household food security, on the other hand, focuses on the family's capacity to produce and acquire food. In addition, explicit attention is paid to how food is produced, in particular the effect on women's work-load and how that food is distributed within the household. All of those factors have a direct effect on nutrition at the household level.

33. The lack of ready access to water and poor environmental sanitation are important underlying causes of malnutrition. These conditions directly affect health, food production and preparation and general hygiene. Inadequate access to water also affects nutrition indirectly by increasing the work-load of women, thus reducing the time available for child care.

34. Inadequate or improper education, particularly of women, is often an underlying cause of malnutrition. It exacerbates their inability to generate resources for improved nutrition for their families.

35. The multisectoral nature of the malnutrition problem becomes obvious when looking at the underlying causes. In a particular context, the analysis should identify which among many potential causes are leading to the particular type of inadequate dietary intake and disease previously identified as the most important immediate causes of malnutrition.

36. Most underlying causes are themselves the result of the unequal distribution of resources in society. This disparity should be analysed and acted upon. Causes at this level are called basic or structural causes.

37. Every community or society has a certain potential for production. What is actually produced and how it is distributed or consumed is determined by technical/ecological, economic, social, political and ideological factors and conditions. Technical/ecological conditions include ecological constraints, existing tools, available natural resources and technology, as well as knowledge, skills and practices. Together they form a system that defines what can be produced.

38. Social conditions include aspects such as existing property relations, the division of labour and power structures. Together they determine what is produced.

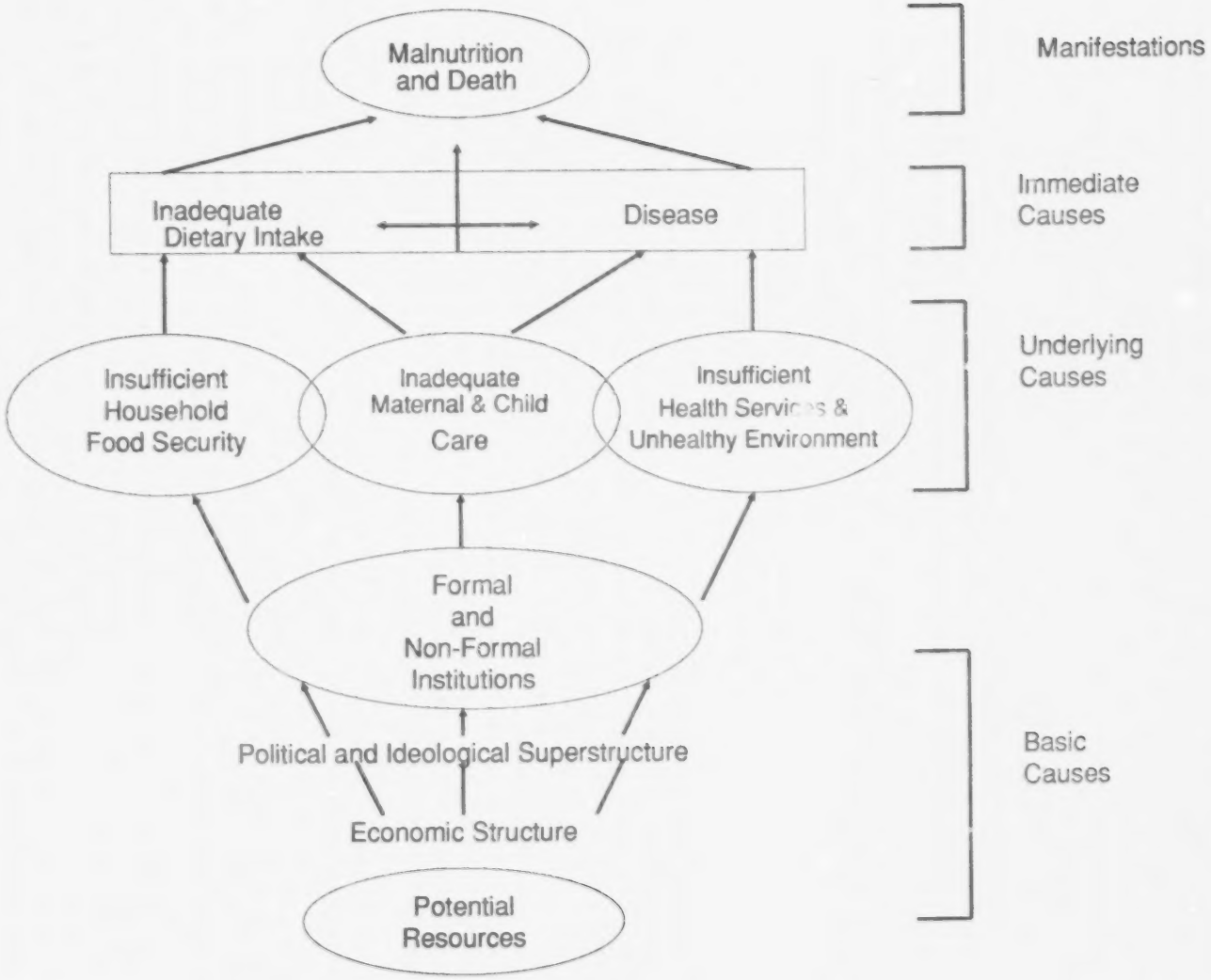
39. Political factors primarily reflect the structure and function of the State, and include income/tax policies, price and subsidization policies, the legal system and the role and power of national institutions. Ideological factors cover even broader aspects of society such as religion, culture, tradition and beliefs. In most developing countries, the "ideology of the State" coexists with several traditional ideologies. This is particularly true with regard to the rights of women.

40. The basic causes of malnutrition in society relate to both the historical background of the society and factors external to the society. The inefficient use of technology, combined with harsh ecological conditions, are common basic causes. External economic dependency and economic restructuring programmes, together with maldistribution of productive assets, particularly land, are common basic economic causes. Consumer and producer pricing structures, subsidies and income policies are important basic national-level political causes, while the subordination of women in many societies is a very important community-level political and basic economic cause. The power structure both within and among households is often legitimized by traditional ideologies, which are often imbedded in the accepted local culture. Figure II summarizes the conceptual framework.

41. Formal and informal institutions play an important role as the interface between underlying and basic causes as they provide basic services or promote improved practices regarding food production and child care. The tasks are performed both by Government and by informal institutions, e.g. households, extended families, organized religious groups and knowledgeable persons. With respect to many services, informal institutions play a very important role. Primary schools and the adult education classes are two of the most important formal institutions.

Figure II

Causes of Malnutrition and Death



42. It is important not to interpret this framework as a predictive model. Its deliberate lack of rigid limits or boundaries leaves room for different models to be developed in different contexts. The framework primarily helps in asking relevant questions in the development of such models. The framework emphasizes the potential multisectoral nature of the problem, i.e., it accommodates possible determinants, but also facilitates the reduction to the most important determinants in a given context. It further facilitates dialogue and co-operation among people of different professions. It has proven easy to communicate, which is important in training and social mobilization. The framework helps to identify what should be assessed and how causative relationships should be identified and analysed. It also helps to clarify the objectives of actions selected for implementation. In a given context, the initially formulated conceptual framework will change and become more focused as reassessment and further analysis take place. Gradually, a more concise "local model" may emerge.

V. OPERATIONALIZATION OF THE STRATEGY

A. General principles

43. Each society has different levels of resource management, from household to national levels. Three types of analysis should be made in relation to these different levels. First, the causes identified in the situation analysis may operate at different levels of society. Each main cause should be addressed at the level at which it operates. For example, inappropriate price policies must be addressed at the national level, while low feeding frequency is primarily a cause at the household level. Secondly, a resource analysis should be made. Existing and potential resources at each level should be identified and assessed from the point of view of how they can be mobilized and used. Thirdly, a power analysis should be made. This will show where decisions for resource allocation are made. These three aspects provide the "space" for nutrition-oriented triple A processes.

44. Existing nutrition-focused triple A processes at regional, district and community/household levels should be identified, strengthened and accelerated and new ones should be initiated. This requires the early development and establishment of nutrition information systems at all levels. Information from these systems will make the nutrition problems visible, make assessment of the impact of actions possible and bring to light the causes of the problem - all important requirements for successful advocacy and social mobilization.

45. Most forms of child malnutrition result in growth faltering. Therefore, growth monitoring provides the most important tool for parents, communities and officials at district and local levels to obtain information about child nutrition. The use of growth monitoring in the context of understanding the processes that influence growth and of promoting appropriate action is an important general principle of the strategy.

46. Awareness of the nutrition situation and commitment to improve it vary greatly. It is, therefore, of great importance to identify committed participants at the beginning of a programme, especially those who command potential resources.

They will be the most important strategic allies in any effort to improve the condition of children and women. These allies should be supported to improve their ability to assess, analyse and design feasible and appropriate actions. They can then take key roles in social mobilization and, in turn, stimulate real participation. New community resources will be created. Thus, the "programme" gradually becomes a "movement".

47. Training at all levels is necessary to improve the capacity to use information for assessing, analysing and designing actions. Many developing countries will need assistance in establishing such management information systems and in training people on how to use the triple A approach more effectively.

48. Of necessity, operationalization at each level must be described separately. In reality, however, processes are interlinked and supported at all levels, all depending on existing needs and opportunities.

B. Household and community levels

49. For virtually all children, their parents and households provide the resources needed to promote and sustain their survival and development. Thus, it is essential that parents be able to assess and monitor the development of their children, to analyse problems and to take immediate actions. Since the lack of growth is the best indicator of protein-energy malnutrition, the most common form of malnutrition, growth monitoring is the best system for assessment at the household level. The development and use of "milestone" indicators for psycho-social development should also be encouraged.

50. If the full potential of growth monitoring for growth promotion is to be realized, weighing should take place monthly from birth to at least 18 months of age, and sessions should be limited in size so that counselling can be conducted properly. Home visits should be included if necessary. Some countries are advancing beyond the growth chart, introducing a more comprehensive child health record that includes an immunization record and information about the health of the pregnant mother and the child up to school entry.

51. At the community level, a monitoring system should be established to identify households with problems of malnutrition and disease that may need additional support. It should be possible to use the data provided by the household growth monitoring system combined with "disease-symptom" monitoring by community health workers (CHWs).

52. Community-level organizations and committees should be encouraged to improve the analysis of the nutrition problem based on this information. Training to improve analysis at the community level is almost always required and should be provided by the district level. Analyses will result in a set of "first-round" priority actions that will be required at the household level, addressing household-level causes and primarily using household resources; and at community level, addressing community level causes and primarily using community resources. Support from higher levels, in particular the district level to the community level

and from the community level to the household level, should be based on careful analysis. The leaders of a community may, for example, decide between support to specific families or actions that support large groups of households.

53. In many poor communities, there are households with no resources. Special attention must be given to these poorest of the poor. Community solidarity and action should be mobilized first and the monitoring system should not only identify those households, but also provide required information about how they develop as a result of actions taken.

C. District level

54. At the district level, the monitoring system should help to identify communities that are unable to control their nutritional problems. The system should also guide authorities in their understanding of positive and negative processes and in establishing priorities for resource allocation. The monitoring system should not only identify problem areas, but should also provide a means for reassessment to measure the effect of various actions implemented.

55. District-level analysis should concentrate on identifying the causes of malnutrition in particular districts. Those causes that can be addressed at the district level, using district resources, should be dealt with first. At the same time, districts would provide training and technical support to communities in their efforts to reduce the most important causes of malnutrition.

56. The district is often involved in the implementation of national programmes that have an impact on nutrition, such as immunization, CDD, training and food security. Therefore, it constitutes the key institution at the "meso" level, i.e. between national and community levels. The district also has a key role in expanding and replicating successful community-level programmes (going to scale) and in establishing nutrition surveillance programmes. In order to fulfil those functions, districts require technical and material support.

57. In some countries, the district level is non-existent or too weak to play a constructive role. In such cases, links with the national level must be strengthened or established.

D. National level

58. In too many cases there is inadequate co-ordination of national-level policy design and community-based nutrition-oriented programmes. It is, however, important to recognize that both are necessary and, if correctly developed, will reinforce each other. The need to reconcile these two priorities has become increasingly urgent because of the need to assess and understand the nutritional impact of economic adjustment policies.

59. Within the framework of nutrition surveillance, assessment at the national level should provide the necessary information for analysing the nutrition problem

from the national perspective. In most cases, such information is best obtained by sample surveys and through sentinel systems. Often an unwillingness or inability to analyse data is the primary reason for limited attention being paid to nutrition in national policy-making and planning. Support is, therefore, required to improve the capability to analyse nutritional data. Advocacy is necessary at the national level to create the political will to promote the survival, development and protection of children and women.

60. All countries are implementing national PHC, agriculture, education and other programmes. It is often more important to reorient and focus already existing national programmes towards nutritional goals than to establish new nutrition programmes. Such a nutritional focus also provides an excellent opportunity to monitor the progress of sectoral programmes. This will contribute to the achievement of sectoral goals, as well as to increased programme sustainability.

61. This nutrition strategy aims at empowerment through improved planning and management of social development, with an emphasis on community and district levels. This effort will require substantial training, as well as technical and material support to planning and management functions at these levels.

VI. IMPORTANT COMPONENTS OF A NUTRITION STRATEGY

A. General principles

62. Breast-feeding is such a key strategy for the attainment of many CSD goals, including child nutrition, CDD, birth spacing and mothers' health and well-being. The aim should be to empower mothers to breast-feed their infants exclusively from birth through four to six months of age, and to continue breast-feeding, with the addition of complementary foods, for up to two years or longer. The strategy to achieve that aim is to create an environment of awareness and support such that those women who choose to exercise their right to breast-feed are able to do so.

63. In the assessment and analysis of a particular situation, existing and potential outreach systems should be identified. The challenge is to identify a viable system capable of reaching to those not normally reached. Such systems may combine conventional components of service delivery with new or traditional components of grass-roots organization. Some common principles may be identified that will vary according to country-specific situations. They include the following: (a) the outreach system should be self-contained within each district, i.e., each district should contain a full complement of back-up support and the authority to make decisions regarding resource allocation; (b) this decentralization should be extended further to subdistrict levels, wherever appropriate, for the allocation of locally generated resources; and (c) existing structures and local groups - political organizations, co-operatives, women's organizations, religious structures, mothers' support groups or community development networks - should be used as much as possible.

64. The phenomenon of urbanization is a crucial factor that demands a shift of emphasis in approaches to fighting malnutrition. Urbanization is not only the

growth of urban population by natural increase and immigration, but also the spread of values and ideas to rural areas. The latter is particularly relevant with the advent of electronic media. Even poor villages in some countries now have a local video recorder/player. Two of the programmatically important consequences of urbanization are the greatly increased material deprivation (geographically concentrated) and emotional alienation. Also crucial are the breakdown of support networks and the increased mobility and change of priorities among recent migrants. In the context of the cultural invasions that distort traditional values, such factors require more fundamental development approaches for significant nutrition improvement.

65. This strategy does not promote any particular pre-packaged set of technical interventions. Instead it describes and promotes an approach or a method by which households, communities and officials at the district and national levels can improve their capacity to assess and analyse the problem of malnutrition and thereby identify the most appropriate and feasible sets of interventions and their sequencing. Therefore, paragraphs 66 to 86 below only identify interventions that should be considered in this process. The methodology to implement them is well-known.

B. Actions that address the manifestations and immediate causes of malnutrition

66. At this level, actions should be taken to assist children and women who are already affected by malnutrition and disease, or have inadequate dietary intake.

Nutrition rehabilitation

67. Severely malnourished children most often require institutional care in order to survive and recover. When such children are identified by a community-based monitoring system, there must be a rehabilitation facility. The rehabilitation of moderately malnourished children is best accomplished in the home or in the community. In either case, direct feeding is often necessary.

Provision of some essential drugs

68. Although prevention is always the preferred strategy, there is a need for life-saving drugs, such as anti-malarials and antibiotics. Sometimes deworming drugs are also required.

Oral rehydration therapy

69. A particularly important intervention is saving the lives of children who are dehydrated by diarrhoeal disease. The relationship between dehydration and dietary intake, often leading to malnutrition and death, is well documented.

Direct feeding programmes

70. Classic feeding programmes, including school lunch programmes, may be appropriate responses in some situations. Food may be provided from local resources, from the Government, or sometimes from international food aid agencies.

Distribution of micronutrients

71. Provided that efficient delivery systems are in place, the fortification and supplementation of food are effective interventions, e.g. for salt iodization. Iron/folate, vitamin A and iodine supplements can be distributed on a large scale. In many countries, the delivery system established for universal child immunization (UCI) may be employed for this. Beneficial changes in dietary habits should be promoted as a long-term measure.

C. Actions that address the underlying causes of malnutrition

72. Actions at this level should address those underlying causes that have been identified as primarily responsible for the particular type of inadequate dietary intake and disease leading to malnutrition or the death of young children and mothers.

Immunization

73. Nutrition programmes often fail because the high incidence of infectious disease impedes dietary intake and utilization, resulting in malnutrition. Unless the most common childhood infectious diseases are controlled, it will be very difficult to reduce the prevalence of malnutrition. The achievement and sustainability of UCI is, therefore, one of the most important premises for improved nutrition.

Expansion and improvement of the primary health care delivery system

74. All actions mentioned thus far, and most actions that follow, are part of a PHC approach. In many countries, there is a need to expand the coverage and improve the quality of PHC services. Improved management at all levels, but primarily at district levels, training and the deployment of locally recruited CHWs, and the improvement of referral services, including hospitals and improved transportation are all potentially important interventions in a nutrition strategy.

Health and nutrition education and communication

75. Health and nutrition education are usually required at all levels, especially for families, health and other extension workers and teachers. Facts for Life should be used extensively.

Family planning

76. Too many children, too closely spaced and born to mothers who are too young or too old are detrimental to the health of both mothers and children and contribute to the enormous work-load of women. High population growth rates also demand rapid technological changes in order to increase production, which in turn requires investment of a size that most countries cannot afford. Therefore, family planning activities should be integrated in all health, education and child-care activities.

Household food security

77. All steps in the food chain should be considered: production; harvesting; storage; distribution; marketing; and preparation. Depending upon the priority of problems identified, emphasis may be placed on staple foods, vegetables or fruits. Food is obtained through production, purchase or barter. For many households, particularly in urban areas, the relationship between income and the price of food determines the level of household food security. Therefore, interventions should focus on employment creation and on income and price policies, including targeted consumer subsidies. In countries undergoing economic adjustment, these aspects are of particular importance. In many countries, food production is primarily the responsibility of women. It is, therefore, important to minimize the work-load of women in their efforts to ensure household food security. Food production should be environmentally sustainable.

Improved feeding practices

78. Breast-feeding provides the necessary energy and nutrients for growth during the first four to six months of life. After that time, breast milk must be supplemented. Because it is both rich in nutrients and has a high-energy density, among other benefits, it is important to promote breast-feeding for up to two years of age or longer. The increased frequency of feeding, the use of high energy density food, improved hygiene and nutrition education regarding the use of foods rich in vitamin A are important to improving child feeding and nutrition.

Maternal and child care

79. The care of the child is inextricably linked with the situation of the household and the situation of women. A mother's knowledge about child care and her access to and control of resources determine, to a large extent, the care she can provide for her child. The lack of resources, in the form of time, knowledge and income, together with the subordination of women in many societies, constitute the underlying and basic causes of malnutrition. Many of the above-mentioned actions address those causes. The establishment of community-based child-care arrangements, income-generating activities for women and the training and education of families should all aim to give women the skills and knowledge required to create better opportunities for improved care for themselves and their children.

Environmental sanitation and water supply

80. Universal access to safe drinking water and sanitary means of excreta disposal are major goals for children and development in the 1990s. Improved water supply is often the priority concern selected by communities because it improves the quality of life in so many ways. More emphasis should be given to the maintenance of water supply systems, the use of local technologies and the hygienic use of water.

Literacy and education

81. "Education for life" should be promoted and supported. Emphasis should be placed on reducing the disparity between boys and girls and on providing adolescent girls with useful knowledge about maternal and child care.

D. Actions that address the basic causes of malnutrition

82. In order to achieve a self-sustained improvement in nutrition, the basic causes of the problem need to be addressed. The increasing awareness of the negative impact of present economic adjustment policies has demonstrated the need to analyse these basic (or structural) causes. Such work would include improved situation analysis (including relevant research), policy dialogue, technology development and advocacy. A special effort should be made to analyse the situation and role of women in society.

Improved situation analysis

83. The goal of the nutrition strategy is normative, but the analysis of the nutrition problem should be scientific. As part of the triple A cycle, the situation analysis should be more or less a continuous exercise. The first effort can be modest and should not take too much time. Gradually, as more is known, the analysis can focus on the most important causes in the country-specific situation. As a part of the situation analysis, studies may be supported to address particular problems that must be solved in order to obtain the necessary knowledge for continued analysis and to design priority actions.

Policy dialogue

84. To the extent the country situation allows, UNICEF should encourage and provide opportunities to discuss the results of the situation analysis and information from surveillance systems with policy makers at different levels. The form in which such information is presented is of great importance. A special effort should be made to become a trusted and active partner in the ongoing discussion on economic adjustment policies. An appropriate method should be found to create a national capacity to monitor and analyse the nutritional impact of these policies. The development and establishment of a national nutrition surveillance capacity, in close co-operation with health and agricultural information systems, should be supported. Information on international development is at present dominated by economic statistics. There is an urgent need to

complement this economic information with information about human development. Nutritional status, measured by anthropometry, is a valid indicator of this. National nutrition surveillance systems could provide this information and so contribute to a more valid monitoring of development.

Technology assessment and development

85. The development and use of new technology is closely related to ecological, social, economic and cultural contexts. It influences and is influenced by the social structure of the society, including the sexual division of labour. Priority should be given to the development of technologies that reduce the work-load of women in household tasks (food production, fetching water and firewood and cooking) through the introduction of more efficient technology or by technology that shifts the responsibility away from women. Technologies that provide women with new or more efficient income-generating opportunities should also be supported.

Advocacy

86. Advocacy at all levels is required to increase awareness, commitment and social mobilization. Close collaboration is required with both modern and traditional channels of communication. This fuels the triple A process at all levels. Advocacy should reflect normative goals, scientific assessment and analysis of the problem and recognize the existing positive processes in society.

E. Collaboration with other agencies

87. In implementing this strategy, UNICEF will work closely with other agencies involved in nutrition, including WHO in health, the Food and Agriculture Organization of the United Nations in food, the United Nations Educational, Scientific and Cultural Organization in education, the World Food Programme in food aid, the International Fund for Agricultural Development in working for the poor, the World Bank in a broad range of issues, and other bilateral agencies and non-governmental organizations at country, regional and headquarters levels.

F. Global support

88. During the next two years, UNICEF proposes various global activities to promote the implementation of this nutrition strategy. These will include training resource people both within UNICEF and Governments, the preparation of training material that, after adaptation, can be used in collaboration with countries and the strengthening of nutrition information systems. Information for advocacy and programming will be generated on topics relevant to national strategy goals, together with studies on successful experiences.

VII. RECOMMENDATION

89. The Executive Director recommends that the Executive Board endorse the following nutritional goals for the year 2000:

(a) The control of protein-energy malnutrition, including the reduction of both moderate and severe protein-energy malnutrition in children under five years of age by one half of the 1990 levels and the reduction of the rate of low birth weight (less than 2.5 kilograms) to less than 10 per cent;

(b) The control of micronutrient deficiency disorders, including the reduction of iron-deficiency anaemia among women of child-bearing age by one third of the 1990 levels, the virtual elimination of iodine deficiency diseases and the virtual elimination of vitamin A deficiency and its consequences, including blindness.

90. In order to achieve those goals, the Executive Director further recommends that the Executive Board endorse:

(a) The strategy proposed to achieve the overall objective of empowering families, communities and Governments to improve the nutrition of women and children on the basis of adequate information and sound analysis, with its two elements:

(i) The method of assessment, analysis and action (the "triple A approach"), which describes how the information should be used;

(ii) The conceptual framework for the analysis of the causes of malnutrition in a specific context, which serves as a guide for discerning what information should be collected;

(b) The proposal that the strategies will be implemented at household/community, district and national levels;

(c) The proposal that the elements of the strategy in a given context will be identified through analysis and will include:

(i) Actions that address the manifestations and immediate causes of malnutrition, such as the promotion of breast-feeding, nutrition rehabilitation, the provision of certain essential drugs, the promotion of oral rehydration therapy, direct feeding programmes and the distribution of micronutrients;

(ii) Actions that address the underlying causes of malnutrition, such as immunization, the expansion and improvement of the primary health care delivery system, health and nutrition education and communication, family planning, household food security, improved feeding practices, maternal and child care, environmental sanitation and water supply, and literacy and education;

(iii) Actions that address the basic causes of malnutrition, such as improved situation analysis, policy dialogue, technology assessment and development and advocacy.

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POLICY REVIEW

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ACUTE RESPIRATORY INFECTIONS

SUMMARY

One of the key goals for the 1990s recommended by the UNICEF/World Health Organization Joint Committee on Health Policy, and endorsed by the Executive Board at its 1989 session, is the reduction by 25 per cent of deaths due to acute respiratory infections (ARI) in children under five years of age. The achievement of this goal presents a significant challenge at both the global and the country levels.

Recognizing the importance of ARI as a major cause of morbidity and mortality among young children, the 1989 Executive Board requested that a review of UNICEF policy and programmes in this area be submitted at its 1990 session. In responding to that request, the present document provides an overview of the problem; reviews current UNICEF experience in the control of ARI, including major control strategies and guidelines for co-operation in national ARI programmes; describes lessons learned; and makes recommendations for future action. The annex reviews UNICEF assistance to ARI control efforts in Bolivia, the Gambia and Thailand.

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I. OVERVIEW

1. Acute respiratory infections (ARI) rank among the most common childhood diseases the world over. Depending on the extent of success in controlling diarrhoea-related mortality, ARI is usually among the first three causes of infant and child mortality. However, medications for ARI treatment constitute the largest single item in the drug expenditure of most developing countries. The situation is far more serious in developing countries than in industrialized countries. While the annual incidence of pneumonia, the most severe manifestation of ARI, is 3 to 4 per cent in children under five years old in industrialized countries, it ranges from 10 to 20 per cent in developing countries, reaching levels as high as 80 per cent in populations with a high prevalence of malnutrition and low birth weight.

2. Furthermore, in most developing countries, pneumonia is associated with high case-fatality and mortality rates 4 to 20 times higher than in industrialized countries. It also claims the lives of young children quickly; rapid deterioration often occurs within five days after the onset of symptoms and the risk of death is greatest for infants under two months old.

3. Of the estimated 15 million deaths occurring each year in children under five years of age, 25 to 30 per cent are estimated to be caused by ARI, and 60 to 80 per cent of these are caused by bacterial pneumonia. Thus, in absolute numbers, pneumonia accounts for about 4 million child deaths annually.

4. In the "Medium-term plan for the period 1988-1992" (E/ICEF/1989/3), controlling ARI deaths among young children is cited as a major programme thrust in the reduction of infant and child mortality. In each of the regional strategies, ARI is described as a major child health problem. The Latin America and Caribbean as well as the Middle East and North Africa regions give particular emphasis to ARI control efforts, citing specific countries in which this is a key cause of infant and young child mortality.

5. However, despite the importance of ARI, the development of effective national control programmes has been slow for the following reasons:

(a) ARI is not a single syndrome. Effective control programmes require the recognition and treatment of pneumonia as well as the distinction between pneumonia and coughs and colds. To be successful, ARI programmes must be part of well-functioning health systems in which trained health workers are regularly supplied with appropriate antibiotics. This aspect assumes a special significance because pneumonia, unlike dehydration and other conditions, cannot be prevented by effective home management alone;

(b) A number of policy decisions have been required on difficult technical issues for which little practical experience or supportive data are yet available. These have included, among others, issues concerning the development of technical protocols for diagnosis and treatment (especially for treating pneumonia during the first two months of life), when and how to involve community health workers (CHWs) in the administration of antibiotics and communicating appropriate messages on home care and referral;

(c) Essential to the success of ARI programmes is the appropriate use and regular distribution of antibiotics to health facilities and/or trained health workers, preferably through national essential drugs programmes. Such distribution often has management and logistic implications that strain the current capacity of national health systems and will take some time to develop;

(d) Until recently, there has been a lack of training and support materials on the diagnosis and treatment of ARI among young children. In addition, the appropriate technology for at least two key procedures, i.e., counting respiratory rates for the diagnosis of pneumonia and supplying oxygen for the treatment of severe pneumonia at small hospitals and clinics, is still in the developmental stage and not yet available for use at the country level. UNICEF is working closely with the manufacturers and the World Health Organization (WHO) in the development of 30-second respiratory rate timers and oxygen concentrators.

6. None the less, the number of Governments requesting UNICEF co-operation in ARI control has increased dramatically during the last four years. Almost 50 per cent of the annual reports submitted from all regions in 1988 and 1989 contained specific references to UNICEF involvement in ARI activities. Programme submissions and proposals for supplementary funding showed similar increases in ARI-related activities.

7. Anticipating the need for policy guidance, a WHO/UNICEF joint statement on ARI was developed in 1986 and given wide distribution throughout the UNICEF network. While the statement has been useful, the need for more detailed technical information and programme support has become increasingly clear and, based on current technical knowledge, programming guidelines for ARI were issued in November 1989.

II. GLOBAL DEVELOPMENTS

A. Establishment of the WHO/ARI programme

8. The World Health Assembly established a global ARI programme - the WHO/ARI Programme - in 1984. In 1987, a comprehensive review was undertaken, resulting in an ongoing re-examination of policies and approaches, substantial revision of the Programme's managerial and clinical training materials and the preparation of new operational instruments. During the past two years, the Programme has also increased the support given to national control activities and continued to promote and support related research.

9. The recommended objective for national programmes for the control of ARI is to reduce the severity of and mortality from pneumonia in children. Other priority objectives are to reduce (a) the severity of and complications from acute upper respiratory infections (AURI); (b) the inappropriate use of antimicrobials and other drugs for the treatment of ARI in children; and eventually (c) the incidence of acute lower respiratory infections (ALRI). 1/

10. The two ARI control strategies advocated thus far are as follows:

(a) Standard case management as the central strategy to reduce mortality due to ARI. Children who die from pneumonia are frequently treated inappropriately, brought too late for treatment or not treated at all. Proper ARI case management can prevent a substantial number of those deaths, even in places where the prevalence of malnutrition and low birth weight is high and where poverty and illiteracy are common;

(b) Immunization as the specific strategy to prevent respiratory infections in children caused by pertussis, measles and diphtheria. By reducing the incidence of disease, those vaccines also contribute to reducing ARI deaths, in particular those associated with pertussis and post-measles pneumonia. It is estimated that immunizable diseases, especially pertussis and measles, contribute to about 25 per cent of ARI incidence.

11. In addition, there are a number of other interventions that are not specifically for the control of ARI, but may reduce the incidence of ALRI by lowering the prevalence of specific risk factors (e.g., low birth weight and malnutrition). The relative importance of such interventions in reducing the incidence and severity of pneumonia, and the degree to which they can be implemented through feasible and cost-effective approaches, will begin to be analysed more systematically in 1990.

B. UNICEF three-country effort

12. In the light of those developments, UNICEF has been moving on the following three fronts to provide greater support to programmes of co-operation in this area:

(a) UNICEF has been following closely the efforts of the WHO/ARI Programme. UNICEF fully supports the strategies promoted by WHO and encourages widespread use of the training and information materials now being produced. In close partnership with WHO and the United States Agency for International Development (USAID), UNICEF has also participated in the development of common strategies for the control of ARI;

(b) Technical support and guidance is provided to the individual country offices requesting such assistance. The availability of new training materials and increasing consensus on important technical issues will assist the efforts being made to respond to country office requests as fully and as quickly as possible;

(c) After extensive consultations with national authorities and UNICEF offices, three countries - Bolivia, the Gambia and Thailand - have been selected for special attention in the development of national ARI programmes in order to learn about operational modalities in a large-scale effort. In those countries, emphasis is on overcoming managerial and attitudinal obstacles to the implementation of the case management approach and to including ARI as a main component of the country programme. Furthermore, all three programmes share the basic objectives of reducing pneumonia-related deaths among young children and establishing a strategy based on correct case management of ARI cases. In each country, methods and strategies are being developed and tested on a subnational

level before being expanded to other areas. Details on activities undertaken thus far are described in the annex to the present document.

13. To ensure maximum benefit from this effort, the technical assistance of experts from Johns Hopkins University (United States) has been secured to assist in the development of sound, comprehensive national plans of action; the design of operations research and effectiveness studies; and the resolution of specific programme-related problems as they arise in the course of implementation.

14. In addition, the Johns Hopkins group will also prepare an overall evaluation of the three-country effort at the end of 1991, with suggestions for specific ways the experience can be used to guide UNICEF co-operation in ARI programmes in other parts of the world.

III. LESSONS LEARNED

15. Much has already been learned about the development of ARI programmes, both from the three-country effort described above as well as from other experiences. Several UNICEF programmes of co-operation are also deeply involved in national ARI programmes, including Bangladesh, Colombia, India, Peru, the Philippines, the Sudan and Turkey. Some of the more important lessons learned thus far include the following.

16. Realistic objectives and targets should guide the development of ARI efforts within each country. As far as possible, the key objective of national ARI programmes should be the reduction of deaths in children under five years old caused by pneumonia. Ideally, targets should be ambitious enough to lead to measurable reductions in ARI-related mortality, but realistic enough to avoid frustration and loss of confidence in control activities.

17. The development of national ARI programmes requires accurate and reliable technical specifications. One area in which it is crucial, for instance, is the adoption of protocols for the diagnosis and treatment of ARI in young children. The absence of clear guidelines may cause confusion (e.g., overuse of antibiotics resulting in antibiotic resistance) and have substantially negative effects on the ARI programme. It should also be noted that "cough and cold medicines" constitute the single largest item of drug expenditure in most countries, although such medications are often symptomatic, unnecessary and ineffective in changing mortality.

18. Given the complexity of ARI programmes, it is best to adopt a phased approach to their implementation. First, the development of subnational efforts, on the basis of which strategies can be evaluated and adjusted, should precede the launching of national programmes. Secondly, services should be established along the following lines:

(a) Access to correct case management should be assured initially at first-level health facilities and first referral levels within the health system;

(b) The involvement of community-based health providers can then be encouraged in order to facilitate greater access for the population;

(c) When most health personnel have been trained in case management, emphasis should be placed on educating families about home care (including criteria for seeking help outside the home). Innovative communication methods are needed to reach most families, especially with regard to the need for the rapid referral of children showing signs of pneumonia.

19. An important goal of viable ARI programmes is the appropriate use of antibiotics. At present, the drugs used are often inappropriate and are administered in incorrect situations or quantities. One of the more serious problems is the "over-treatment" of coughs and colds with antibiotics, both to satisfy parents and because of the mistaken assumption that antibiotic treatment will prevent pneumonia. To facilitate the administration of antibiotics and to help ensure that they are properly used only for the treatment of pneumonia in children, UNICEF is exploring the possibility of packaging cotrimoxazole in paediatric dosages labelled specifically as a five-day treatment of pneumonia. It is also essential that the drugs provided by UNICEF for the treatment of ARI are part of the essential drugs schemes that exist at the country level. UNICEF should also encourage Governments to limit or ban the use of harmful commercial remedies for simple coughs and colds.

20. Effective communication strategies are essential to ARI programmes, both in early stages when the focus is on establishing services with health services and as the emphasis shifts to educating families about home care and referral. The primary goal of communication activities should be to ensure that caretakers can rapidly obtain the right therapy (antibiotics), for the right children (with pneumonia), from a trained health worker, for the right duration. Furthermore, communication strategies should be based on a thorough understanding of target groups and be carefully integrated into national ARI programmes.

21. Viable training strategies are also required to sustain national efforts. The importance of well-organized training in the ARI context cannot be overstated. Counting respiratory rates and recognizing chest indrawing signs used for correct case management are not simple tasks. They require a substantial investment of time and careful follow-up to ensure their correct application. Furthermore, clear distinctions should be made between the training of those who will diagnose and provide treatment and those who will simply recognize clinical signs and advise on when to seek help or treatment. Activities now under way in several countries will provide practical experience and guidance as to how this multi-level training may be most effectively organized.

22. The prevention of pneumonia is an area that will require attention during the next few years. At present, little data are available concerning the relationships between specific risk factors and the development of pneumonia in young children. Factors now under study include low birth weight, malnutrition, specific nutritional deficiencies (e.g., vitamin A), exposure to cold, indoor air pollution (smoke from fuel and tobacco), urban air pollution and over-crowding. Once the relative importance of such risk factors and possibilities for their control are established, appropriate cost-effective strategies can be developed.

23. Another key issue is the household management of ARI, including simple measures to make the child feel better and knowing when and where to seek help if the condition worsens. Caretakers of young children can be taught to recognize some signs of pneumonia and where to go for help. They can also be encouraged to follow simple measures to treat coughs and colds. To explore more thoroughly possibilities for the household management of ARI, WHO and UNICEF are organizing an experts meeting on this issue in April 1990. Further guidelines for UNICEF co-operation at the country level will be issued on the basis of the consultation.

IV. RECOMMENDATIONS

24. The Executive Director recommends that, in order to reduce the morbidity and mortality caused by ARI, especially in infants and children under five years old, the Executive Board endorse the following actions, and that the progress made be reported annually in the report of the Executive Director:

(a) Given the early stage of ARI control efforts at both international and country levels, priority attention must be given to the development of sound policies and approaches. This process will entail both continuing research in several technical and operational areas and careful monitoring of country-level activities. The three-country effort described in the present document will receive particularly close attention;

(b) Special attention will also be given to issues requiring further study, including strategies for involving paraprofessionals in the administration of antibiotics, techniques for diagnosing pneumonia (e.g., counting respiratory rates), the nature and timing of communication efforts and the identification of risk factors and preventive measures. UNICEF will also be working closely with WHO, USAID and other interested organizations in developing common strategies for the control of ARI;

(c) At present, UNICEF will provide support in the following areas:

(i) Development of technically sound norms for diagnosis and treatment, including their application by health personnel, such as CHWs, as appropriate;

(ii) Training in the standard case management of ARI, especially for both health workers at the clinic level and first referral facilities and CHWs in various settings;

(iii) Provision of appropriate drugs in reasonable quantities. One of the key objectives of all ARI programmes must be to provide the right drug to the right child, at the right time, for the right duration;

(iv) Development of sound communication strategies that are fully integrated into national programmes and supportive of reliable, well-established services. First priority should be given to the design and production of teaching and information materials for use by health workers and the

caretakers of young children. When developing messages on home care and referral, appropriate ethnographic surveys and other research may be necessary;

(v) Development of the initial phases of national programmes, e.g., implementation in selected areas to test operational strategies. Once the effectiveness of the strategies has been established, they can be expanded on a national scale;

(vi) Provision of appropriate technology for the diagnosis and treatment of pneumonia, including timers for counting respiratory rates and oxygen concentrators for use at small hospitals or clinics;

(vii) Implementation of preventive measures. Maintenance of a high level of immunization, especially measles and combined diphtheria, pertussis and tetanus. A potential area of intervention with possible significant impact might be the reduction of indoor air pollution, especially smoke from fuel and tobacco, where ventilation is also restricted.

Notes

1/ AURI include those of the nose, pharynx (throat) or middle ear. ALRI include those of the epiglottis, larynx, trachea, bronchi, bronchioles or lung. Pneumonia is classified as ALRI; ear, nose and throat infections fall into the AURI category.

Annex

REVIEW OF UNICEF ASSISTANCE TO EFFORTS TO CONTROL ACUTE RESPIRATORY INFECTIONS IN THE GAMBIA, BOLIVIA AND THAILAND

The Gambia

1. In the Gambia, the Ministry of Health has already established a national ARI control programme as part of primary health care services. Initial efforts include strengthening skills and services within health facilities, as well as the training of village health workers (VHWs) in the recognition and treatment of pneumonia with oral penicillin. A programme team, including representatives of UNICEF and WHO, as well as outside experts, visited the Gambia in October 1988 to help revise the plan of action and to make recommendations concerning further development of the programme during the next three years. In brief, the team recommended significant changes in the existing treatment protocol to bring it closer to the current WHO recommendations.

2. During the first year, the focus will be on training all health workers in the recognition and treatment of pneumonia. The first line of treatment to be used by VHWs has been changed to cotrimoxazole because it is much more effective than penicillin in treating the organisms that cause pneumonia. Referral health centre and hospital care will also be improved through the provision of a full range of antibiotics. Emphasis will be placed on improving supervision, especially of VHWs by community health nurses, and the functioning of the health information system. During the second year, the major effort will be to extend coverage from the trial districts to all Gambian children and to improve the quality/effectiveness of the programme as a whole. A comprehensive review of the programme will be undertaken in the third year to highlight lessons learned about the feasibility of involving health facility staff, VHWs and the community on a national scale in the recognition and treatment of pneumonia in children.

3. While the primary responsibility for developing those activities rests at the country level, UNICEF headquarters will continue to provide special technical support and assistance during the next few years.

Bolivia

4. The programme team that visited Bolivia in February 1989, which included members from UNICEF and the Pan American Health Organization, found a somewhat different situation than the one existing in the Gambia. The Government has been extremely interested in developing an effective ARI programme because pneumonia is the principal cause of death, especially on the high plateau. As a first step, a programme manager was appointed, and existing diagnosis and treatment protocols were reviewed. Previous programmes had been based on the use of penicillin injections, resulting in considerable diversion of drugs from peripheral health centres and hospitals. The lack of knowledge on when and to whom to refer pneumonia cases led to the deaths of many infants before they reached the hospitals.

5. Faced with this situation, the programme team has recommended a phased approach. During the first phase, the focus will be on developing and testing clear, nationally-accepted norms for case management and on initiating training and service delivery in four geographically distinct areas of the country. This will provide an opportunity to test a number of operational factors, e.g., training, supervisory and logistics systems. In the second phase, services will be extended to other areas, training centres will be established and information systems further improved.

6. One of the major challenges in Bolivia is to strengthen services at the first and second levels of referral while at the same time taking advantage of the well-developed network of community health volunteers under the comités populares (community committees). The network reaches three quarters of the population (mostly Aymara and Quechua), who are unserved by the formal system, and the volunteers serve as the main first-line providers for coverage in the expanded programme on immunization and the control of diarrhoeal diseases. Integrating them into the national ARI programme was viewed by the programme team as a pre-condition for achieving coverage and long-term sustainability.

7. A national steering committee has been designated to develop further the ARI programme along the lines outlined above. UNICEF and WHO will be providing consultants as well as other types of support during various stages of the process. Detailed plans are presently being developed.

Thailand

8. In Thailand, a national ARI programme has existed for some time, but it has also had implementation problems. The challenge now is to bring the plans into line with the new WHO case management protocol, improve its effectiveness, extend coverage and involve village-level health workers in a meaningful way.

9. In 1988, a pilot project was started in 13 provinces in which the major activity was the teaching of case management to health centre and hospital staff. The project will test whether doctors, nurses and sub-district health centre staff can clearly distinguish between varying degrees of severity among ARI cases and provide standardized care using the simple criteria in the present WHO protocol. The project is also testing how much should be taught to village volunteers.

10. The involvement of the volunteers requires careful study, as many Thai paediatricians and doctors view childhood pneumonia as a problem in which the care of moderate and severe cases should be restricted to hospitals and doctors. To convince them otherwise, local data are needed to show that long-term reductions in deaths due to ARI among young children depend on early diagnosis and the treatment of acute bacterial pneumonia by trained non-medical health personnel who are readily accessible to the populations they serve.

11. To develop the programme further, a technical committee of 22 leading national experts has been appointed. A meeting will be held in late 1989 to prepare a revised national plan of action. Consultants will be provided by WHO and UNICEF.

There is an urgent need to revise the existing case management protocol and change the diagnostic criterion of starting treatment only after three days of fever (since many deaths in babies occur before three days); to focus more on childhood pneumonia than on other ARI infections; and to ensure the appropriate sequencing of antibiotics (i.e., the promotion of cotrimoxazole as the first-line treatment with other antibiotics for referral care). UNICEF and WHO will remain closely involved in all aspects of the programme.